401.7-402	METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) MOD 599B METEOROLOGICAL-SATELLITE (Earth-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) ~~Earth Exploration-Satellite (Earth-to-space)~~ Fixed ~~Meteorological-Satellite (Earth-to-space)~~ Mobile except aeronautical mobile 648A 648B

MHz
402-430

USA/ /11 MOD

Allocation to Services		
Region 1	Region 2	Region 3
402-403	METEOROLOGICAL AIDS MOBILE-SATELLITE (space-to-Earth) MOD 599B METEOROLOGICAL-SATELLITE (Earth-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) ~~Earth Exploration-Satellite (Earth-to-space)~~ Fixed ~~Meteorological-Satellite (Earth-to-space)~~ Mobile except aeronautical mobile 648A 648C	

403-~~406~~404	METEOROLOGICAL AIDS MOBILE-SATELLITE (space-to-Earth) MOD 599B Fixed Mobile except aeronautical mobile 648A
404-406	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile 648

Reason:

The Report of the CPM states that additional spectrum will be necessary to meet the near-term requirements for MSS below 1 GHz. As a consequential change of adding allocations for the mobile-satellite service in the 401-404 MHz bands, it is necessary to upgrade the allocations for the meteorological-satellite and Earth exploration-satellite services to primary (see also Resolution 710 (WARC-92)).

USA/ /12 ADD

648A (S5.265A) The use of the bands 401-404 MHz by the mobile-satellite service is subject to the application of the coordination and notification procedures set forth in MOD Resolution 46. Until sharing criteria are developed, in the band 401-404 MHz, stations in the mobile-satellite service shall not cause harmful interference to the meteorological aids, meteorological- satellite, Earth exploration-satellite, and Space Operations services. In accordance with Resolution YYY, sharing criteria to facilitate mobile satellite operations are to be developed as a matter of urgency by the ITU-R and reviewed by a future competent world radiocommunication conference. In making assignments to the space stations of the mobile-satellite service in the 401-404 MHz band, administrations shall take all practicable steps to protect the radio astronomy service in the 406.1-410 MHz band from harmful interference from

unwanted emissions. Unwanted emissions from mobile-satellite service space stations operating in the 401-404 MHz band shall not cause harmful interference to the mobile-satellite service in the 406-406.1 MHz band (649A (S5.267) applies).

Reason:

RR 648A is necessary to ensure proper sharing criteria are developed by the ITU-R as outlined in Resolution YYY.

USA/ /13 ADD

648B (S5.265C) In the bands 401.7-402.4 MHz, the aggregate power flux density produced at the geostationary satellite orbit by emissions from space stations in a mobile satellite service network shall not exceed -162 dBW/m^2 per 4 kHz. In accordance with Resolution YYY this limit is to be reviewed by the ITU-R and may be revised by a future competent world radiocommunication conference.

Reason:

RR 648B is necessary to ensure proper sharing criteria are developed by the ITU-R as outlined in Resolution YYY.

MHz

455-456

USA/ /14 MOD

Allocation to Services		
Region 1	Region 2	Region 3
455-456	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) MOD 599B 653A 653 670	

Reason:

To make available additional spectrum for MSS systems, in accordance with the Report of the CPM which notes that 7-10 MHz of additional spectrum will be required for MSS below 1 GHz. RR MOD 599B has been added to clarify that use of this frequency band is limited to use by non-geostationary satellite orbit systems. RR 653A has been added to clarify that the coordination and notification procedures of MOD Res. 46 apply to this band.

MHz
459-460

USA/ /15 MOD

Allocation to Services		
Region 1	Region 2	Region 3
459-460	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) MOD 599B 653A 653 669 670	

Reason:

To make available additional spectrum for MSS systems, in accordance with the Report of the CPM which notes that 7-10 MHz of additional spectrum will be required for MSS below 1 GHz. RR MOD 599B has been added to clarify that use of this frequency band is limited to use by non-geostationary satellite orbit systems. RR 653A has been added to clarify that the coordination and notification procedures of MOD Res. 46 apply to this band.

USA/ /16 ADD

653A (S5.271A) The use of the bands 455 - 456 MHz and 459 - 460 MHz by the mobile-satellite service is subject to the application of the coordination and notification procedures set forth in MOD Resolution 46. Mobile earth stations in the mobile-satellite service shall coordinate outside

of national boundaries through use of the coordination distance method in Recommendation ITU-R M.[Doc.8/46].

Reason:

Footnote 653A is necessary to establish the coordination methodology for mobile-satellite systems operating pursuant to new MSS allocations in the 455 - 456 MHz and 459 - 460 MHz bands.

USA/ /17 ADD

RESOLUTION No. YYY (WRC-95)

Sharing Studies Concerning the Use of the Bands 401-404 MHz by the Mobile-Satellite Service (space-to-Earth)

The World Radiocommunication Conference (Geneva, 1995),

considering

a) that agenda item 3(d) of this Conference requested the consideration, inter alia, of allocation of frequency bands to the mobile-satellite service;

b) that this conference allocated spectrum in the 401-404 MHz band for non-geostationary mobile-satellite service;

c) that the bands 401-403 MHz and 403-404 MHz are allocated to the meteorological-satellite, meteorological aids, space operation, and Earth exploration-satellite services;

d) that there is a need to determine the operational and technical means to facilitate sharing between the mobile satellite service and the services mentioned in c above;

e) that co-channel sharing between the mobile-satellite service and the meteorological aids service may be difficult;

f) that RR ADD 648B (S5.265C) specifies a maximum pfd at the geostationary satellite orbit from stations in the mobile-satellite service;

resolves

1. that studies be undertaken as a matter of urgency by the ITU-R to develop the operational and technical measures that would facilitate sharing between the mobile satellite service and the services in considering c;

2. that the power flux density limit in RR ADD 648B (S5.265C) at the geostationary satellite orbit for networks of the mobile

satellite service in the 401.7-402.4 MHz band be reviewed and if necessary revised by the ITU-R;

3. that studies be undertaken to determine the amount of spectrum needed in the 401-406 MHz band for the meteorological aids service to perform its intended functions;

4. that the World Meteorological Organization (WMO) be invited to participate in these sharing studies;

invites

1. the ITU-R continue to study, as a matter of urgency, the technical and operational issues relating to the sharing of these bands between the services mentioned in c) above and the mobile-satellite service in the space-to-Earth direction;

2. administrations to participate actively in such studies by sending contributions to the ITU-R relating to the aforementioned studies;

3. the ITU-R to bring the results of these studies to the attention of the next competent world radiocommunication conference

instructs the Secretary-General

to bring this Resolution to the attention of WMO.

Reason:

To insure that necessary sharing studies are undertaken.

International Telecommunication Union
World Radiocommunication Conference
Geneva, October 23 - November 17, 1995

Document No.015-E
11 July 1995
Original: English

United States of America

Proposals for Agenda Items 2.1 and 4

Regulatory Provisions for Non-Geostationary Fixed-Satellite Services

Introduction:

Following WARC-92, the United States received an application for a non-geostationary fixed satellite service (NGSO FSS) that would operate in the current 20/30 GHz FSS allocations. This system has been advanced published. This type of NGSO low earth orbiting satellite network has the ability to deliver advanced, digital broadband transmissions at a low cost, regardless of location. These systems can provide an instant telecommunications infrastructure, vital for economic development as well as for education, government, health care and public services.

Due to the high cost of putting in place wireline or terrestrial networks, rural areas of the United States and many remote areas of the world do not have access to advanced communications networks. Because of the greater cost of providing terrestrial based facilities to less populous regions, those regions may never receive advanced terrestrial communications infrastructure. NGSO FSS low earth orbiting broadband satellite networks would enable local telephone companies, network service providers, and government authorities around the world to cost-effectively modernize the existing communications infrastructure, increasing economic opportunity and enhancing quality of life.

In the 20/30 GHz FSS allocations, where the U.S. advanced published NGSO FSS system would operate, the United States has identified spectrum requirements for three types of satellite applications: 1) non-geostationary MSS feeder links to support MSS service links in the 1-3 GHz range; 2) geostationary FSS;

and 3) new broadband NGSO FSS, the subject of this proposal.[8] Co-frequency sharing among all three may not be possible. Nevertheless, the United States is of the view that all three should be assured an opportunity to develop in these bands on an equitable basis.

Resolution 46 (WARC-92) recognizes that the application of No. 2613 of the Radio Regulations would prejudice the development of non-geostationary satellite networks by placing them at an operational disadvantage relative to geostationary satellite networks. In light of proposals to accommodate non-geostationary MSS feeder links in the 20/30 GHz bands, it is necessary under Agenda Item 2.1 to consider the impact of those proposals on the existing 20/30 GHz FSS allocations, of which NGSO FSS is a subset. Paraphrasing, Agenda Item 2. states that on the basis of proposals submitted by administrations, and with a view toward facilitating the use of frequency bands allocated to MSS, the Conference should take account of existing services. In the 20/30 GHz bands, the Conference will consider allocations for non-geostationary MSS feeder links. A direct consequence of any action taken is the availability of this spectrum for non-feeder link FSS use. Therefore, the conference is required to consider the impact on such use.

To provide for the development of the three different applications in the 20/30 GHz bands, certain actions must be taken. For bands where non-geostationary MSS feeder links are intended to operate, we are proposing to suppress RR No. 2613. To accommodate NGSO FSS use in the 20/30 GHz bands, we are proposing to suppress RR No. 2613 and to provide priority for NGSO FSS in specific segments of the 20/30 GHz bands after a specified date.

---

[8] Spectrum is already allocated in the 20/30 GHz bands for the fixed-satellite service. Therefore, there is only the need to provide regulatory certainty for NGSO FSS technology. The following USA proposal addresses the addition of footnotes to the Radio Regulations to allow for the accommodation of such satellite systems.

GHz
18.8-19.7

USA/ /1
MOD

Allocation To Services		
Region 1	Region 2	Region 3
18.8-19.7	FIXED FIXED-SATELLITE-SERVICE(space-to-Earth) ADD 873H ADD 873I	

GHz
27.5-29.5

USA/ /2
MOD

Allocation To Services		
Region 1	Region 2	Region 3
28.5-29.5 FIXED FIXED-SATELLITE SERVICE (Earth-to-space) 882D ADD 873H ADD 873I MOBILE Earth Exploration-Satellite (Earth-to-space) 882C 882B		

USA/ /3
ADD 873H

The provisions of RR No.2613 do not apply to non-geostationary fixed satellite systems operating in the bands 18.8 - 19.3 GHz(space-to-Earth) and 28.6 - 29.1 GHz(Earth-to-space). Stations of GSO fixed satellite service networks brought into use in the band 18.8 - 19.3 GHz (space-to-Earth) and 28.6 - 29.1 (Earth-to-space) after November xx, 1995 shall not claim protection from and shall not cause harmful interference to non-geostationary fixed satellite service networks in this band.

Reason:

Procedural revisions are necessary to provide a regulatory base which would permit the orderly operation of non-geostationary fixed-satellite services without any regulatory uncertainties to their full operational life. Consequently, the provisions of RR No.2613 would not apply in this band, but only for non-geostationary fixed-satellite service in the specific directions of transmission.

NOTE: Proposed footnotes 873H and 873I and proposed footnotes 882H, 882I, 872A, 872B, 872C, and 872D involve frequencies that overlap. In the event both of these proposals are adopted by the Conference, these new footnotes would need to be combined in an amended table of allocations.

USA/ /4

ADD 873I After November xx, 1995, the use of the bands 18.8-19.3 GHz(space-to-Earth) and 28.6-29.1 GHz(Earth-to-space) by the fixed satellite service is subject to the application of the coordination and notification procedures set forth in MOD Res 46, including coordination between geostationary networks and non-geostationary networks.

Reason:

Procedures are required to facilitate the orderly operation of non-geostationary fixed satellite systems. Therefore, the application of the coordination and notification procedures set forth in MOD Resolution 46 would be necessary for shared, co-directional use of the band by non-geostationary fixed satellite networks.

NOTE: Proposed footnotes 873H and 873I and proposed footnotes 882H, 882I, 872A, 872B, 872C, and 872D involve frequencies that overlap. In the event both of these proposals are adopted by the Conference, these new footnotes would need to be combined in an amended table of allocations.

International Telecommunication Union
World Radiocommunication Conference
Geneva, October 23 - November 17, 1995

Document No.016-E
11 July 1995
Original: English

United States of America

Proposals for Agenda Item 6.2

Agenda for the 1997 World Radiocommunication Conference

Introduction:

As required by the Constitution and Convention of the ITU, and as directed by the Kyoto Plenipotentiary Conference, the 1995 WRC shall develop a recommended agenda for the 1997 WRC. The basis for this should be Resolution No. 2 adopted by the 1993 WRC as a preliminary agenda for the 1997 WRC. In addition to the preliminary topics identified below, the United States may submit additional proposals to address specific unresolved topics based on the progress we observe at WRC-95.

USA/ /1 MOD Resolution No.~~2~~

~~Preliminary~~ Agenda for the 1997 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, ~~1993~~ 1995)

considering

~~that in accordance with Nos. 118 and 126 of the Convention (Geneva, 1992) and having regard to Resolution 1 of the Additional Plenipotentiary Conference (Geneva, 1992), the general scope of the agenda for the 1997 World Radiocommunication Conference (WRC-97) should be established four years in advance,~~

considering further

a) Resolution ~~9~~ PLEN/17 of the ~~Additional~~ Plenipotentiary Conference ~~(Geneva, 1992)~~; (Kyoto, 1994);

b) Article 13 of the Constitution (Geneva, 1992) regarding the competence and scheduling of world radiocommunication

conferences and Article 7 of the Convention (Geneva, 1992) regarding their agendas;

c) the relevant Resolutions and Recommendations of previous world administrative radio conferences,

~~resolves to give the view~~

~~that the following items should be included in the preliminary agenda of WRC 97, to be held in late 1997;~~

recognizing

~~1. to take appropriate action in respect of those urgent issues that were specifically requested by~~ that the 1995 World Radiocommunication Conference (WRC-95) identified a number of urgent issues requiring further examination by this Conference;

resolves

to recommend to the Council that a world radiocommunication conference be held in Geneva in late 1997 for a period of four weeks, with the following agenda:

1. on the basis of proposals by administrations and the report from the conference preparatory meeting;

2. to consider and take appropriate action in respect of the topics referred to in the following resolutions and recommendations:

2.1 Resolutions 60 (WARC-79), 211 (WARC-92), 710 (WARC-92) and 712 (WARC-92);

2.2 Recommendations 66 (Rev. WARC-92), 621 (WARC-92), 711 and 715 (Orb-88);

3. ~~based on proposals by Members of the Union, and~~ taking account of the results of WRC-95, to review and, where necessary, revise the provisions of the Radio Regulations with respect to the following topics:

3.1 unresolved and other pressing issues concerning frequency allocations and regulatory aspects as related to the mobile-satellite services, including allocations for feeder links for mobile-satellite services **as** appropriate;

3.2 other frequency allocation issues for the space services which are not covered in the above-mentioned Resolutions, as follows:

3.2.1 allocation of frequency bands above 50 GHz to the Earth exploration-satellite (passive) service;

3.2.2 ~~frequency allocations and associated provisions for the band 399.9 - 400.05 MHz~~; review of the allocation to the space research service in the 410-420 MHz band;

3.2.3 in addition to the limits 8-20 GHz shown in Resolution 712, review the allocations above 420 MHz with a view to establishing common worldwide primary allocations for space based active earth sensors in the space research and earth exploration satellite services;

3.2.4 review, and realign, as appropriate, the existing allocations in the frequency range 50.2-65 GHz with a view to establishing better sharing conditions for allocated services;

3.2.5 allocation, on a primary basis, of up to 6 GHz of spectrum, around 68 GHz, to the intersatellite service;

3.3 examination of, and taking necessary decisions on, the question of the HF bands allocated to the broadcasting service in the light of developments to date and the results of the studies carried out by the Radiocommunication Sector;

3.4 consideration of the possible deletion of all secondary [and permitted] allocations from the band 136 - 137 MHZ, which is allocated to the aeronautical mobile (R) service on a primary basis, in accordance with Resolution 408 (Mob-87)

and in order to meet the special needs of the aeronautical mobile (R)service;

3.5 the provisions of Chapters IX [Appendix S13] and NIX [Chapter SVII], as stipulated in Resolution 331 (Mob-87) and appropriate action in respect of the issues dealt with in Resolutions 200 (Mob-87), 210 (Mob-87) and 330 (Mob-87) taking into account that the global maritime distress and safety system (GMDSS) shall be fully implemented in 1999;

3.6 the following matters related to the maritime mobile and maritime mobile-satellite services:

3.6.1 the use of the Appendix 18 [S18] VHF frequency band for maritime mobile communications;

3.6.2 Article 61 [S53] relating to the order of priority of communications in the maritime mobile service and in the maritime mobile-satellite service;

3.7 Appendices 30 [S30] and 30A [S30A] for Regions 1 and 3 in response to Resolution 524 (WARC-92), and taking particular account of resolves 2 of that Resolution;

~~4. to consider the report of the Director of the Radiocommunication Bureau on the activities of the Radiocommunication Sector since the last Conference;~~

~~5. to recommend to the Council items for inclusion in the agenda of the 1999 World Radiocommunication Conference and give its views on the preliminary agenda for the 2001 World Radiocommunication Conference;~~

~~6.~~4. to consider such consequential changes and amendments to the Radio Regulations as may be necessitated by the decisions of the Conference;

~~7.~~5 in accordance with Resolution 94 (WARC-92), to review those resolutions and recommendations of world administrative radio conferences and world radiocommunication conferences which are relevant to resolves 1 to 6 4 above with a view to their possible revision, replacement or abrogation,

6. in accordance with Article 7 of the Convention (Geneva, 1992):

6.1 to consider and approve the report of the Director of the Radiocommunication Bureau on the activities of the Radiocommunication Sector since the last conference;

6.2 to recommend to the Council the agenda for the 1999 World Radiocommunication Conference, and to give its views on the preliminary agenda for the 2001 Conference and on possible agenda items for future conferences;

6.3 to identify those items requiring priority action by the radiocommunication study groups,

invites the Council

~~to consider the views given in this Resolution~~, to establish the agenda and make provision for WRC-97 and to initiate as soon as possible the necessary consultation with Members;

instructs the Director of the Radiocommunication Bureau

to make the necessary arrangements to convene meetings of the Conference Preparatory Meeting and to prepare a report to WRC-97,

instructs the Secretary-General

~~1. to communicate this Resolution to WRC-95;~~

~~2~~. to communicate this Resolution to concerned international and regional organizations.

Reason:

This Resolution may require further refinement dependent upon the 1995 conference results. [ ] are used to indicate changes that may result from recommendations by the VGE. In 3.4, language in [ ] could be suppressed by WRC-95 if the conference agrees to the deletion of the permitted service and relevant footnotes.
